

AMENDMENTS TO THE CLAIMS

1-34. (Cancelled)

35. (Currently Amended) A data transmission system in which a server is operable to transmit content data that is designated by a content reservation request, which is issued by a data terminal device for the content data, said server being operable to transmit the content data through one of a ~~plurality of communications circuits~~ either one of a wired communication circuit and a wireless communication circuit to a data circuit terminating device which is connected to said data terminal device for storing the content data, said wireless communication circuit being operable to transmit data to a plurality of data circuit terminating devices by one transmission, wherein:

~~said plurality of communications circuits~~ said server and said data circuit terminating device are connected in parallel ~~between said server and said data circuit terminating device~~ by each of said wired communication circuit and said wireless communication circuit;

~~each of said plurality of communication circuits~~ said wired communication circuit and said wireless communication circuit is operable to communicate the content data to said data terminal device;

~~each of said plurality of communication circuits~~ said wired communication circuit and said wireless communication circuit is operable to provide communication between said server and said data terminal device through different means;

the content reservation request indicates a time limit in which the content data that is designated by said data terminal device is to be available in said data circuit terminating device;

either said server or any one of said ~~plurality of communications circuits~~ wired communication circuit and said wireless communication circuit comprises:

a time limit management part operable to manage the time limit indicated by the content reservation request issued from said data terminal device; and

a scheduling part, based on both the time limit managed in said time limit management part and whether or not a reference value associated with said wireless communication circuit indicating that said wireless communication

circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of data terminal devices to which the content data is addressed, operable to determine a transmission time and to select one of said plurality of communications circuits either one of said wired communication circuit and said wireless communication circuit which provides the most optimal means for communication between said server and said data circuit terminating device, so as to ensure that the content data is completely transmitted by the indicated time limit; and said server comprises a data send out part operable to send out the content data onto the determined optimal one of said plurality of communications circuits wired communication circuit and said wireless communication circuit according to the transmission time that is determined by said scheduling part.

36. (Previously Presented) The data transmission system according to claim 35, wherein the predetermined communications information indicates at least one of a size of the content data that is designated by the content reservation request and the number of data terminal devices to which the content data is addressed.

37. (Previously Presented) The data transmission system according to claim 35, wherein said data circuit terminating device operates while receiving power from any one of said plurality of communications circuits.

38. (Previously Presented) The data transmission system according to claim 35, wherein said data circuit terminating device comprises:

a content storage operable to store the content data transmitted over the determined optimal one of said optimal communications circuits into a recording area thereof; and

a data transmission part operable to read, from said content storage, the content data that is designated by a read request issued from said data terminal device for the content data to be transmitted to said data terminal device.

39. (Previously Presented) The data transmission system according to claim 38, wherein, after reading the content data that is designated by the read request, said data transmission part is also operable to read content data that is not designated by the read request, and to transmit a set of the read content data to the data terminal device.

40. (Previously Presented) The data transmission system according to claim 38, wherein said data circuit terminating device is operable to transmit a storage completion notice to said data terminal device indicating that the content data is successfully stored in the recording area of said content storage.

41. (Previously Presented) The data transmission system according to claim 40, wherein the storage completion notice is in a format of HTML.

42. (Previously Presented) The data transmission system according to claim 40, wherein the storage completion notice is an e-mail.

43. (Previously Presented) The data transmission system according to claim 40, wherein

said data circuit terminating device is operable to transmit the storage completion notice to said data terminal device in various formats, and

said data circuit terminating device is operable to transmit the storage completion notice to said data terminal device in a format that is designated by a user of said data terminal device.

44. (Previously Presented) The data transmission system according to claim 38, wherein

at least one of said plurality of communications circuits includes a recording area management unit operable to manage the recording area of said data circuit terminating device, and

in response to a request from said server, said recording area management unit is operable to transmit a recording area reserve instruction to request said data circuit terminating device to reserve a space in the recording area for the content data.

45. (Currently Amended) The data transmission system according to claim 38, wherein

said data circuit terminating device ~~inquires~~ is operable to inquire said server through cache processing whether the content data has been updated when the content data that is requested by said data terminal device is popular,

said server is operable to, when the content data has been updated, responsively transmit the updated content data to said data circuit terminating device, and

said data circuit terminating device is operable to store the updated content data received from said server into said content storage.

46. (Previously Presented) The data transmission system according to claim 45, wherein

the recording area of said content storage is divided into a plurality of smaller areas, and

said data circuit terminating device is operable to assign each different smaller area to store the content data acquired by the content reservation request and the content data acquired through the cache processing.

47. (Previously Presented) The data transmission system according to claim 38, wherein

said system includes at least one additional data circuit terminating device, said data circuit terminating device and said at least one additional data circuit terminating device constituting a plurality of data circuit terminating devices, and

any one of said plurality of data circuit terminating devices is operable to acquire content data that is stored in a content storage area of another one of said plurality of data circuit terminating devices.

48. (Previously Presented) The data transmission system according to claim 35, wherein said data circuit terminating device is operable to, in the cache processing, inquire said server when the communications traffic on the determined optimal one of said plurality of communications circuits is low.

49. (Previously Presented) The data transmission system according to claim 35, wherein said data circuit terminating device is implemented with a protocol to function as a mail server, and is operable to perform transmission and reception of an e-mail.

50. (Previously Presented) The data transmission system according to claim 49, wherein said data circuit terminating device is operable to send out the e-mail onto the determined optimal one of said plurality of communications circuits when the communications traffic on the determined optimal one of said plurality of communications circuits is low.

51. (Previously Presented) The data transmission system according to claim 50, wherein
the e-mail is assigned a priority indicating an importance of the e-mail, and
said data circuit terminating device is operable to change a timing for sending out the e-mail onto the determined optimal one of said plurality of communications circuits according to the priority assigned to the e-mail.

52. (Currently Amended) A data transmission method in which a server transmits content data that is designated by a content reservation request, which is issued by a data terminal device for the content data, the content data being transmitted by the server through one of a plurality of communications circuits either one of a wired communication circuit and a wireless communication circuit to a data circuit terminating device which is connected to the data terminal device for storing the content data, and the wireless communication circuit being operable to transmit data to a plurality of data circuit terminating devices by one transmission, wherein:
the plurality of communication circuits the server and the data circuit terminating

device are connected in parallel between the server and the data circuit terminating device by each of the wired communication circuit and the wireless communication circuit;

communication of the content data to the data terminal device can be performed by each of the ~~plurality of communication circuits~~ wired communication circuit and the wireless communication circuit;

communication between the server and the data terminal device is provided by each of the wired communication circuit and the wireless communication circuit ~~plurality of communication circuits~~ through different means;

the content reservation request indicates a time limit in which the content data that is designated by the data terminal device is to be available in the data circuit terminating device;

wherein, in either the server or any one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit, said method comprises:

managing the time limit indicated by the content reservation request issued from the data terminal device; and

determining, based on both the time limit managed in said managing of the time limit and whether or not a reference value associated with the wireless communication circuit indicating that the wireless communication circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of data terminal devices to which the content data is addressed, a transmission time and selecting one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit which provides the most optimal means for communication between the server and the data circuit terminating device so as to ensure that the content data is completely transmitted by the indicated time limit; and

wherein, in the server, said method comprises sending out the content data onto the ~~determined selected~~ optimal one of the plurality of communications wired

communication circuit and the wireless communication circuit circuits according to the transmission time determined in said determining of the transmission time.

53. (Currently Amended) A data transmission system comprising a plurality of data terminal devices in which content data that is designated by a content reservation request issued from any number of said plurality of data terminal devices is transmitted from a server to said plurality of data terminal devices through a plurality of ~~communications circuits~~ either one of a wired communication circuit and a wireless communication circuit,

wherein said wireless communication circuit is operable to transmit data to said plurality of data terminal devices by one transmission.

wherein said server and said plurality of ~~communications circuits~~ data terminal devices are connected in parallel between said server and said plurality of data terminal devices by each of said wired communication circuit and said wireless communication circuit;

wherein the content reservation request indicates a download condition for downloading the content data that is designated by one of said plurality of data terminal devices;

wherein said data transmission system comprises:

a status data generation part operable to generate content reservation status data listing at least one download condition which is indicative of at least one of a transmission time and a transmission cost for content data that is available to be transmitted from said server; and

a data transmission part operable to transmit the content reservation status data generated by said status data generation part to the number of said plurality of data terminal devices;

wherein said data transmission system is operable to collect from the number of said plurality of data terminal devices a corresponding number of content reservation requests each indicating a download condition for downloading the content data to the number of said plurality of data terminal devices, respectively;

wherein said data transmission system further comprises:

a download condition management part operable to manage the content data and the at least one download condition in accordance with the number of content reservation requests received from the number of said plurality of data terminal devices;

a scheduling part, based on both the at least one download condition managed in said download condition management part and whether or not a reference value associated with said wireless communication circuit indicating that said wireless communication circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of said plurality of data terminal devices to which the content data is addressed, operable to determine a transmission timing and select ~~one of said plurality of communications circuits~~ either one of said wired communication circuit and said wireless communication circuit which ~~ensure~~ ensures that the content data transmitted under the download condition is completely received by the number of said plurality of data terminal devices in accordance with the download condition indicated by the content reservation request received from each of the number of said plurality of data terminal devices, and

a data send out part operable to send out the content data onto the selected one of said plurality of communications circuits ~~wired communication circuit and said wireless communication circuit~~ according to the transmission timing determined by said scheduling part.

54. (Previously Presented) The data transmission system according to claim 53, wherein the download condition is a time limit in which the content data that is designated by at least one of said plurality of data terminal devices is to be ready in any one of said data terminal devices.

55. (Previously Presented) The data transmission system according to claim 54, further comprising an acceptance processing part operable to accept the content reservation request, and to determine, based on how many other data terminal devices of

said plurality of data terminal devices are induced to receive the content data by the time limit, a transmission expense for the content data.

56. (Previously Presented) The data transmission system according to claim 55, wherein, said acceptance processing part is operable to refer to a time margin that is left for a new time limit to determine the transmission expense for the content data when the content reservation request that is issued from one of said plurality of data terminal devices carries the new time limit which is not indicated by the content reservation status data.

57. (Currently Amended) The data transmission system according to claim 53, wherein

the download condition is a transmission expense for the content data that is designated by the content reservation request issued from one of said plurality of data terminal devices,

said transmission system further comprises an acceptance processing part operable to accept the content reservation request from the one of said plurality of data terminal devices, and to determine, based on how many other data terminal devices of said plurality of data terminal devices are requesting for the content data to be transmitted by the time limit, the transmission expense for the content data, and

said data send out part is operable to send out the content data designated by the content reservation request onto one of said ~~plurality of communications circuits wired~~ communication circuit and said wireless communication circuit when the transmission expense determined by said acceptance processing part becomes equal to or less than a predetermined value.

58. (Currently Amended) The data transmission system according to claim 53, wherein

the download condition is the number of other data terminal devices of said plurality of data terminal devices requesting for the content data to be transmitted,

said data transmission system further comprises an acceptance processing part operable to accept the content reservation request from one of said plurality of data terminal devices, and to determine, based on how many other data terminal devices of said plurality of data terminal devices are requesting the content data to be transmitted, a transmission expense for the content data, and

said data send out part is operable to send out the content data designated by the content reservation request onto one of said ~~plurality of communications circuits~~ wired communication circuit and said wireless communication circuit when the number of content reservation requests that are accepted by said acceptance processing part becomes equal to or larger than a predetermined value.

59. (Currently Amended) A data transmission method in which content data that is designated by a content reservation request issued from any number of a plurality of data terminal devices is transmitted from a server to the plurality of data terminal devices through a ~~plurality of communications circuits~~ either one of a wired communication circuit and a wireless communication circuit, which are connected in parallel between the server and the plurality of data terminal devices,

wherein the server and the plurality of data terminal devices are connected by each of the wired communication circuit and the wireless communication circuit, which is operable to transmit data to the plurality of data terminal devices by one transmission,

wherein the content reservation request indicates a download condition which is indicative of at least one of a transmission time and a transmission cost for downloading the content data that is designated by the plurality of data terminal devices;

wherein said method comprises:

generating content reservation status data listing at least one download condition for content data that is available for transmission; and

transmitting the content reservation status data generated in said generating of the content reservation status data to the number of the plurality of data terminal devices; and

wherein said method further comprises:

collecting from the number of the plurality of data terminal devices a corresponding number of content reservation requests each indicating a download condition for downloading the content data to the plurality of data terminal devices, respectively;

managing the content data and the at least one download condition in accordance with the number of content reservation requests received from the number of the plurality of data terminal devices;

determining, based on both the at least one download condition managed in said managing of the at least one download condition and whether or not a reference value associated with the wireless communication circuit indicating that the wireless communication circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of the plurality of data terminal devices to which the content data is addressed, a transmission timing and selecting either one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit which ~~ensure~~ ensures that the content data transmitted under the at least one download condition is completely received by the number of the plurality of data terminal devices in accordance with the download condition indicated by the content reservation request received from each of the number of data terminal devices; and

sending out the content data onto the selected one of the plurality of ~~communications circuits~~ wired communication circuit and the wireless communication circuit according to the transmission timing determined in said determining of the transmission timing.

60. (Currently Amended) A data transmission system in which a server is operable to transmit a content data set that is designated by a content reservation request, which is issued by a data terminal device for the content data set, said server being operable to transmit the content data set through either one of a ~~plurality of communications circuits~~ wired communication circuit and a wireless communication circuit to a data circuit

terminating device which is connected to said data terminal device for storing the content data set, wherein:

said wireless communication circuit is operable to transmit data to a plurality of data circuit terminating devices by one transmission;

said plurality of communication circuits server and said data circuit terminating device are connected in parallel between said server and said data circuit terminating device by each of said wireless communication circuit and said wireless communication circuit;

each of said plurality of communication circuits wired communication circuit and said wireless communication circuit is operable to communicate the content data to said data terminal device;

each of said plurality of communication circuits wired communication circuit and said wireless communication circuit is operable to provide communication between said server and said data terminal device through different means;

the content data set includes a plurality of content data each varying in content;

the content reservation request indicates a time limit in which the content data set that is designated by said data terminal device is to be available in said data circuit terminating device;

either said server or any one of said plurality of communications circuits wired communication circuit and said wireless communication circuit comprises:

a time limit management part operable to manage the time limit indicated by the content reservation request issued from said data terminal device; and

a scheduling part, based on both the time limit managed in said time limit management part and whether or not a reference value associated with said wireless communication circuit indicating that said wireless communication circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of data terminal devices to which the content data is addressed, operable to determine a transmission time and to select either one of said plurality of communications circuits wired communication circuit and said wireless communication circuit which provides the most optimal means for communication between said server

and said data circuit terminating device so as to ensure that the content data set is completely transmitted by the indicated time limit;

said server comprises a data send out part operable to send out the content data set onto the selected one of said wired communication circuit and said wireless communication circuit ~~communications circuit~~ according to the transmission time determined by said scheduling part; and

said data circuit terminating device is connected to each of ~~the plurality of communications circuits~~ said wired communication circuit and said wireless communication circuit, and said data circuit terminating device is operable to receive the content data set from the ~~determined selected~~ optimal one of said wired communication circuit and said wireless communication circuit ~~plurality of communications circuits~~ and to read only the content data satisfying a predetermined selection condition for the content data to be transmitted to said data terminal device.

61. (Currently Amended) The data transmission system according to claim 60, wherein said data circuit terminating device comprises:

a content storage operable to store the content data set received from the ~~determined selected~~ optimal one of said ~~plurality of communications circuits~~ wired communication circuit and said wireless communication circuit therein; and

a data transmission part operable to read, from said content storage, only the content data satisfying the predetermined selection condition for the content data to be transmitted to said data terminal device in response to a read request issued from said data terminal device for the content data.

62. (Previously Presented) The data transmission system according to claim 61, wherein

each of the content data that is included in the content data set is provided with attribute information indicating a respective attribute thereof,

said data circuit terminating device further comprises a selection condition list storage operable to store a selection condition list including a selection condition based on the attribute of the content data to be transmitted to said data terminal device, and

said data transmission part is operable to read, from said content storage, the content data according to the selection condition list stored in said selection condition list storage for transmission of the content data to said data terminal device.

63. (Previously Presented) The data transmission system according to claim 62, wherein the selection condition list is generated based on a keyword that is inputted into said data terminal device by a user.

64. (Previously Presented) The data transmission system according to claim 61, wherein said data circuit terminating device further comprises a data deletion part operable to delete the content data set stored in said content storage within a predetermined timing.

65. (Previously Presented) The data transmission system according to claim 64, wherein said data deletion part is operable to delete the content data set stored in said content storage when a recording capacity of said content storage becomes smaller than a predetermined reference recording capacity.

66. (Previously Presented) The data transmission system according to claim 64, wherein

the content data set is provided with deletion timing information indicating a timing when the content data set is to be deleted, and

said data deletion part is operable to delete the content data set according to the deletion timing information provided with the content data set.

67. (Currently Amended) The data transmission system according to claim 60, wherein said data circuit terminating device comprises:

a content storage operable to store, from the content data set received from the determined optimal one of said ~~plurality of communications circuits~~ wired communication circuit and said wireless communication circuit, only the content data satisfying the predetermined selection condition, and

a data transmission part operable to read the content data stored in said content storage for the content data to be transmitted to said data terminal device in response to a read request issued from said data terminal device for the content data.

68. (Currently Amended) A data transmission method in which a server transmits a content data set that is designated by a content reservation request, which is issued from a data terminal device for the content data set, the content data set being transmitted by the server through either one of a plurality of communications circuits-wired communication circuit and a wireless communication circuit to a data circuit terminating device which is connected to the data terminal device for storing the content data set, wherein:

said the server and the data circuit terminating device are connected plurality of communication circuits are connected in parallel between said server and said data circuit terminating device by each of the wired communication circuit and the wireless communication circuit, which is operable to transmit data to a plurality of data circuit terminating devices by one transmission;

communication of the content data to the data terminal device can be performed by each of the plurality of communication circuits-wired communication circuit and the wireless communication circuit;

communication between the server and the data terminal device is provided by each of the plurality of communication circuits-wired communication circuit and the wireless communication circuit through different means;

the content data set includes a plurality of content data each varying in content;

the content reservation request indicates a time limit in which the content data set that is designated by the data terminal device is to be available in the data circuit terminating device;

wherein, in either the server or any one of the plurality of communications circuits-wired communication circuit and the wireless communication circuit, said method comprises:

managing the time limit indicated by the content reservation request issued from the data terminal device; and

determining, based on both the time limit managed in said managing of the time limit and whether or not a reference value associated with the wireless communication circuit indicating that the wireless communication circuit is suitable for communicating the content data is satisfied by a number, which is included in predetermined communications information, of data terminal devices to which the content data is addressed, a transmission time and selecting one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit which provides the most optimal means for communication between the server and the data circuit terminating device so as to ensure that the content data set is completely transmitted by the indicated time limit;

wherein, in the server, said method further comprises sending out the content data set onto the ~~determined~~ selected optimal one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit according to the transmission timing determined in said determining of the transmission time;

wherein the data circuit terminating device is connected to each of the plurality of communications circuits; and

wherein, in the data circuit terminating device, said method further comprises reading, from the content data set received from the ~~determined~~ selected optimal one of the ~~plurality of communications circuits~~ wired communication circuit and the wireless communication circuit, only the content data which has been predetermined to be transmitted to the data terminal device.